DII.30B.IRIX62.Kernel.IG-1

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Kernel Installation Guide (IRIX 6.2)

Version 3.0/B

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Preface

The following conventions have been used in this document:

[HELVETICA FONT]	Used to indicate keys to be pressed. For example, press [RETURN].
`Courier Font`	Used to indicate entries to be typed at the keyboard, operating system commands, titles of windows and dialog boxes, and screen text. For example, type the following command: `tar xvf /dev/rmt/3mn`
"Quotation Marks"	Used to indicate prompts and messages that appear on the screen.
Italics	Used for emphasis.

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1. Introduction

1.1 Overview

This document provides information and guidance needed for proper installation of the IRIX Version 6.2 Operating System and the Defense Information Infrastructure (DII) Common Operating Environment (COE) Kernel Version 3.0/B.

The DII COE contains a large number of functional blocks called segments; however, not all segments are required for every application. The DII COE *Kernel* is the minimal set of software required on every workstation regardless of how the workstation will be used. The DII COE Kernel includes the following features:

- Operating system
- Windowing environment
- System Administration function
- Security Administration function
- Runtime tools
- Commercial Off-the-Shelf (COTS) software [including desktop graphical user interface (GUI) and windowing environment]
- Government Off-the-Shelf (GOTS) software.

The System Administration segment is required because it contains the software needed to load all other segments. The GUI is required because it is the interface through which an operator issues commands to the system. The GUI is an icon-driven and menu-driven desktop interface, not a command line interface. The templates included in the DII COE Kernel describe the basic runtime environment context that an operator inherits upon login (e.g., which processes are run in the background or which environment variables are defined). The DII COE Kernel ensures that every workstation in the system operates in a consistent manner and that every workstation begins with the same environment.

From an installation sequence perspective, it is necessary to define a subset of the DII COE Kernel called the bootstrap DII COE. Segments are installed through a special DII COE program called the segment installation tool, which is accessed as a system administration function. However, the segment installation tool itself must be installed before it can be used to install segments. Moreover, COTS software is typically not in segment format. How then is the segment installation tool, as well as at least a minimum operating system, installed to permit the DII COE Kernel to be loaded? This is done by first loading the operating system and windowing environment, then by loading the DII COE segment installation software. Once the DII COE is

thus *bootstrapped*, it is possible to load the remaining components of the DII COE Kernel and any additional segments.

Figure 1 shows a more detailed notional depiction of the process. The user is responsible for installing the operating system and windowing environment, the DII COE, which contains operating system modifications to support DII, the desktop GUI, the COE, System Administration, and Security Administration. Reference the *DII COE Integration and Runtime Specification* for more information about the DII COE.

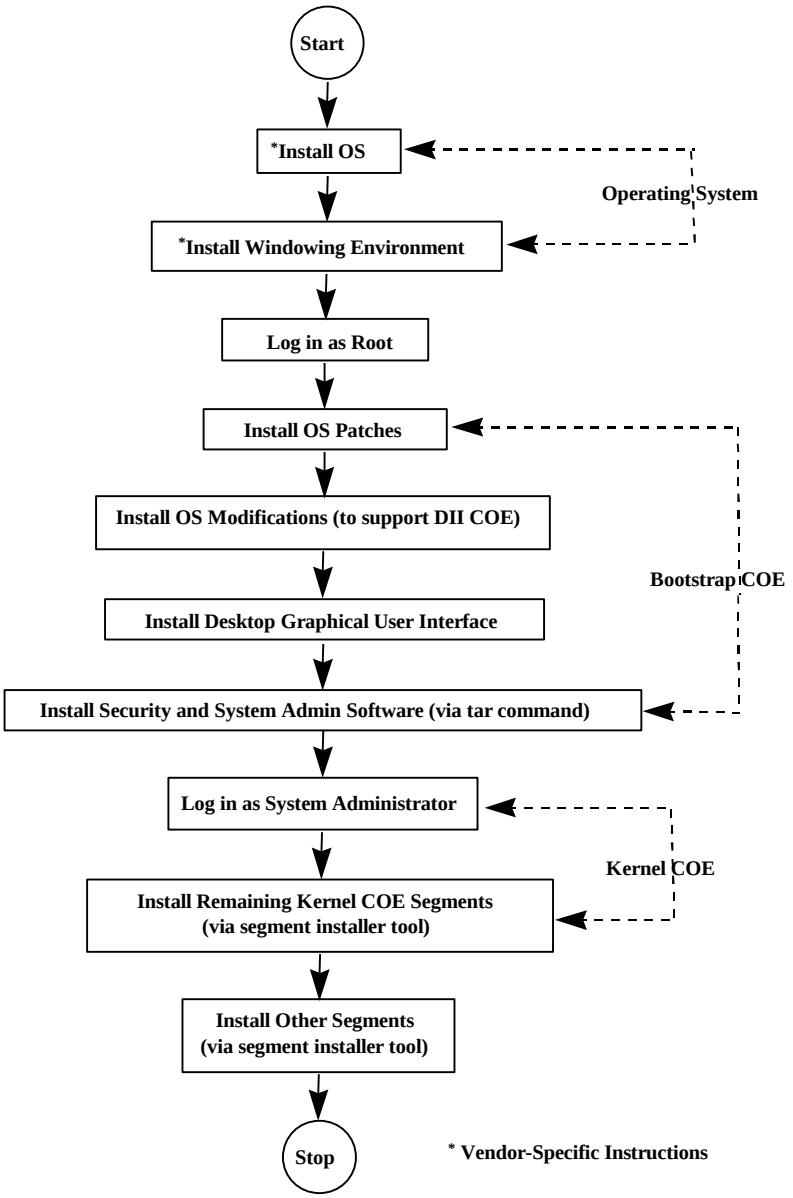

Figure 1. Notional DII COE Kernel Installation

This installation approach has several advantages: (1) It greatly simplifies the installation process; (2) it guarantees a standard starting configuration for all platforms regardless of how they will be used; and (3) it allows all remaining segments to be loaded in a standard way regardless of the hardware platform or mission application, thus simplifying system administration. Through the COE, segments may extend the base environment as required as they are loaded.

1.2 Installation Process

During the IRIX Version 6.2 installation process, an installation kernel is booted from the IRIX installation media. Your system disk is initialized and the new system is configured using the installation media. Once the configuration and initialization are complete, a new fully-functional IRIX Operating System and applications are loaded from the IRIX media onto your system disk.

The DII COE Kernel tape is then installed. The DII COE Kernel provides the desktop GUI, the operating system patches, and the DII COE Security and System Administration software. Reference the *DII COE System Administrator's Guide (HP-UX 10.20 and Solaris 2.5.1)* and the *DII COE Security Manager's Guide (HP-UX 10.20 and Solaris 2.5.1)* for more information about system and security administration functionality.

1.3 Referenced Documents

Reference the following documents for more information about the DII COE Kernel:

- *Defense Information Infrastructure (DII) Common Operating Environment (COE) Integration and Runtime Specification* Version 2.0, DII COE I&RTS:Rev 2.0, Inter-National Research Institute, October 23, 1995

- *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.1 System Administrator's Guide (HP-UX 10.20 and Solaris 2.5.1)*, DII.31.HPSOL.AG-1, Inter-National Research Institute (INRI), April 14, 1997

- *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.1 Security Manager's Guide (HP-UX 10.20 and Solaris 2.5.1)*, DII.31.HPSOL.SMG-1, Inter-National Research Institute (INRI), April 14, 1997.

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2. System Environment

2.1 System Requirements

This section describes DII COE hardware components, IRIX Operating System components, and DII COE Kernel components for the IRIX Operating System.

2.1.1 Hardware Components

The following hardware components are required. The software may reside on a single disk or across multiple disks.

- **SGI INDY or SGI INDIGO^2 processor**. An SGI INDY or SGI INDIGO^2 processor.
- **Memory**. At least 64 megabytes (MB) of random access memory (RAM).
- **Hard disk drive**. Recommend 1.2 gigabyte (GB) or larger capacity.
- **Source devices**. A CD-ROM drive to load the operating system; a 4mm DAT drive to load the DII COE software.

The following hardware components are optional:

- Floppy disk drive
- Cartridge tape drive
- 8mm Exabyte tape drive
- Audio card.

2.1.2 Operating System Components

The following IRIX Operating System components are required for an SGI INDY processor:

- IRIX CD-ROM labeled *IRIX 6.2 (Part 1 of 2)*
- IRIX CD-ROM labeled *IRIX 6.2 (Part 2 of 2)*
- IRIX CD-ROM labeled *NFS/ONC FOR IRIX 6.2 Version 1.2*.

The following IRIX Operating System components are required for an SGI INDIGO^2 processor:

- IRIX CD-ROM labeled *64 bit IRIX 6.2 with Indigo^2 IMPACT 10000 (Part 1 of 2)*
- IRIX CD-ROM labeled *64 bit IRIX 6.2 with Indigo^2 IMPACT 10000 (Part 2 of 2)*

.

- IRIX CD-ROM labeled *NFS/ONC FOR IRIX 6.2 Version 1.2*.

2.1.3 Kernel Components

The DII COE Kernel (IRIX Version 6.2) tape is required. The DII COE Kernel is a suite of applications layered on top of the IRIX 6.2 Operating System. The DII COE Kernel tape contains software relating to the following areas:

- Operating system modifications
- System and security administration software.

2.2 IRIX Installation Preparation

The following questions must be answered before installing the IRIX Operating System and the DII COE Kernel. Your system administrator should provide you with the appropriate answers.

1. Does the system have an internal tape drive? If so, what is the tape drive number?

2. Is an external tape drive attached to the system? If so, what is the tape drive number?

3. What is the controller number?

NOTE: The tape drive number and the controller number can be found by typing the following command at a prompt:

```
hinv [RETURN]
```

Information similar to the following appears:

```
CDROM: unit 4 on SCSI controller 0
Tape drive: unit 3 on SCSI controller 0
Disk drive: unit 2 on SCSI controller 0
```

The tape drive number is the number following the words "`Tape drive: unit`". For the tape drive shown above, the tape drive number is `3`. The controller number is the number following the words "`SCSI controller`". For the tape drive shown above, the controller number is `0`.

4. What is the host name of the system?

NOTE:

1. The name of the system can be found by typing the following command at a prompt:

   ```
   /usr/bin/uname -n  [RETURN]
   ```

   The name of the system is displayed.

2. The name of the system can be found if you know the Internet Protocol (IP) address of the system. Type the following command at a command line prompt. This command only works if the Domain Name Service (DNS) has been configured.

   ```
   /usr/bin/nslookup [IP address][RETURN]
   ```

   For example, if the IP address of the system is “121.121.121.121", type the following command:

   ```
   /usr/bin/nslookup 121.121.121.121[RETURN]
   ```

   Information similar to the following appears:

   ```
   Server:  myserver
   Address: 123.123.123.123

   Name:    mysystem
   Address: 121.121.121.121
   ```

   where `myserver` is the name server, `123.123.123.123` is the IP address of the name server, and `mysystem` is the name of the system.

5. What is the IP address of the system?

NOTE:

1. If you know the name of the system (e.g., `mysystem`) but do not know the IP address of the system, type the following command at a command line prompt:

   ```
   /sbin/cat /etc/hosts[RETURN]
   ```

   After you type this command, information similar to the following appears:

   ```
   127.0.0.1         localhost
   121.121.121.121   mysystem
   ```

   The line that contains the name of the system being configured also includes the system's IP address.

2. If you know the name of the system but do not know the IP address of the system, type the following command at a command line prompt. This command only works if DNS has been configured.

   ```
   /usr/bin/nslookup [host name][RETURN]
   ```

   For example, if the name of the system is "mysystem", type the following command:

   ```
   /usr/bin/nslookup mysystem[RETURN]
   ```

   Information similar to the following appears:

   ```
   Server:  myserver
   Address: 123.123.123.123

   Name:    mysystem
   Address: 121.121.121.121
   ```

   where `myserver` is the name server, `123.123.123.123` is the IP address of the name server, and `121.121.121.121` is the IP address of the system.

6. What is the password for the `root` administrative account? This password is required to log in to the system.

7. Does your network have a default router? If so, what is the IP address of your default router?

8. What is the password for the System Administration (`sysadmin`) account?

9. What is the password for the Security Administration (`secman`) account?

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3. IRIX Operating System Installation

3.1 Starting an IRIX Installation

The IRIX Operating System must be loaded from CD-ROM. Follow the steps below to load the IRIX CD.

NOTE: The prompts, menus, and menu items displayed below are representative and may not reflect the actual prompts and menu items verbatim.

NOTE: This automated installation procedure is called a *destructive installation* because the installation removes any previously installed software. Your disk *will* be overwritten as part of the installation process and all data will be lost. If you must save any data currently on the system, you should back it up before you proceed.

STEP 1: **Determine if you need to attach a CD-ROM drive to the system**. If your machine is turned *on* and you need to attach a CD-ROM drive to the system, proceed to STEP 2. If your machine is *off* and you need to attach a CD-ROM drive to the system, proceed to STEP 5. If your machine is *off* and you do *not* need to attach a CD-ROM drive to the system, proceed to STEP 6. If your machine is *on* and you do *not* need to attach a CD-ROM drive to the system, proceed to STEP 7.

STEP 2: **Log in**. Log in as `root` and enter your `root` password. A command prompt appears.

NOTE: If the native CDE is loaded on the machine, log in as `root` in the DISA login screen and enter your `root` password. Open a terminal emulator window from the CDE Front Panel before proceeding to STEP 3. To open a terminal emulator window, click on the Terminal control from the Text Editor—Personal Applications control subpanel. Reference the *DII COE System Administrator's Guide (HP-UX 10.20 and Solaris 2.5.1)* for more information about the CDE Front Panel.

STEP 3: **Shut down the system**. Type the following command to shut down the system:

```
/etc/shutdown -y -g0 [RETURN]
```

The following messages appear and the system shuts down.

```
Shutdown started. [system date and time]
Broadcast Message from root (ttq2) on [machine name] [system
date and time]
```

STEP 4: **Begin the restart sequence**. The following dialog box appears:

```
The system is shutting down.
Please wait.
```

Click on the `Restart` button when the following dialog box appears:

```
Okay to power off the system now.
     Press any key to restart.
```

STEP 5: **Attach a CD-ROM drive to the system**. Turn off the computer and attach a CD-ROM drive to the system.

NOTE: If the system restarts before you complete STEP 5, repeat STEPS 2-5.

STEP 6: **Turn on the computer**. Once the drive is attached, power on all peripheral devices and, lastly, the CPU.

STEP 7: **Log in**. Log in as `root` and enter your `root` password. A command prompt appears.

NOTE: If the native CDE is loaded on the machine, log in as `root` in the DISA login screen and enter your `root` password. Open a terminal emulator window from the CDE Front Panel before proceeding to STEP 8. To open a terminal emulator window, double-click on the Terminal control from the Text Editor—Personal Applications control subpanel. Reference the *DII COE System Administrator's Guide (HP-UX 10.20 and Solaris 2.5.1)* for more information about the CDE Front Panel.

STEP 8: **Shut down the system**. Type the following command to shut down the system:

```
/etc/shutdown -y -g0 [RETURN]
```

The following messages appear and the system shuts down.

```
Shutdown started. [system date and time]
Broadcast Message from root (ttq2) on [machine name] [system
date and time]
```

NOTE: The system date and time are shown in the message above. You will need to know this information in Section 3.2, *Installing IRIX*.

STEP 9: **Begin the restart sequence**. The following dialog box appears:

```
The system is shutting down.
Please wait.
```

Click on the `Restart` button when the following dialog box appears:

```
Okay to power off the system now.
     Press any key to restart.
```

NOTE: If the system restarts before you complete STEP 9, repeat STEPS 7-9.

STEP 10: **Choose to perform system maintenance**. Click on the `Stop for Maintenance` button *immediately* when the following dialog box appears:

```
Starting up the system...
```

STEP 11: **Choose to install system software**. The `WELCOME TO INDY` or `WELCOME TO INDIGO`^{2} window appears. Click on the `Install System Software` icon.

STEP 12: **Select CD-ROM as the distribution source**. The `Install System Software` window appears. Click on the `Local CD-ROM` icon to specify the location of the software distribution. A toggle in the window should state the CD-ROM drive information (e.g., `Local SCSI CD-ROM drive 4`). Then click on the `Install` button.

STEP 13: **Load the first IRIX CD-ROM**. The following message appears:

```
Insert the installation CD-ROM now.
```

If you are using an SGI INDY processor, load the IRIX CD-ROM labeled *IRIX 6.2 (Part 1 of 2)* into the CD-ROM drive and then click on the `Continue` button. If you are using an SGI INDIGO^2 processor, load the IRIX CD-ROM labeled *64 bit IRIX 6.2 with Indigo^2 IMPACT 10000 (Part 1 of 2)* into the CD-ROM drive and then click on the `Continue` button. The following dialog box appears:

```
Obtaining Installation Tools
```

The following dialog box then appears:

```
Copying installation tools to disk
```

STEP 14: **Wait for the miniroot to be copied**. The screen darkens for a moment and then the miniroot is copied to the swap partition of the target, which takes about 5 minutes. A message window appears indicating the status of the copy. When the copy is complete, informational messages similar to the following appear:

```
IRIX Release 6.2
Copyright 1987-1996 Silicon Graphics, Inc.
All Rights Reserved.
ipg0: missing
enp0: missing
fxp0: missing
```

These messages are normal and do not indicate a problem—one line is posted for each type of device that is supported by the kernel and not detected on the target. After the device messages, startup messages similar to the following appear:

```
Creating miniroot devices, please wait...Current system date is
[date and time]
Mounting file systems:
   /dev/miniroot           on  /
   /dev/dsk/dks0d1s0       on  /root
   /root/dev/usr           on  /root/usr
Invoking software installation.
```

In addition, the following dialog box may appear:

```
Cannot find in /etc/hosts.
Using standalone network mode.
```

NOTE: The startup messages include a posting of the system date and time. If the date and time are not correct, reset it in STEP 2 of Section 3.2, *Installing IRIX*.

STEP 15: **Review introductory information about IRIX**. The `Introduction to the IRIX 6.2 Execution Only Environment CD Set`screen appears. Press the [SPACE BAR] if a message similar to the following appears at the bottom of the screen:

```
Because IRIX 6.2 contains a number of new products, it might
require more disk space than your current IRIX release. Silicon
Graphics recommends that you more? (h=help)
```

STEP 16: **Choose to ignore the startup script**. A menu similar to the following appears:

```
Do you wish to run the optional installation startup script?
1. Run the installation startup script now
2. Ignore the startup script
3. Show the contents of the startup script
4. Help/Show the introductory "README" statement again
Please enter a choice [1]:
```

Type `2` and press [RETURN] to ignore the startup script.

STEP 17: **Proceed to the next section**. Proceed to the next section to install IRIX.

3.2 Installing IRIX

STEP 1: **Review the `Inst Main Menu`.** The `Inst Main Menu` appears (Figure 2), followed by an `Inst` prompt. The purpose of the installation utility is to transfer distribution software to a hard disk in a usable format.

```
Inst Main Menu

 1. from [source]              Specify location of software to be installed
 2. list [keywords] [names]    Display information about software subsystems
 3. go                         Perform software installation and removal now
 4. install [keywords] [names] Select subsystems to be installed
 5. remove [keywords] [names]  Select subsystems to be removed
 6. keep [keywords] [names]    Do not install or remove these subsystems
 7. step [keywords] [names]    Interactive mode for install/remove/keep
 8. conflicts [choice ...]     List or resolve installation conflicts
 9. help [topic]               Get help in general or on a specific word
10. view ...                   Go to the View Commands Menu
11. admin ...                  Go to the Administrative Commands Menu
12. quit                       Terminate software installation

Inst>
```

Figure 2. Inst Main Menu

STEP 2: **Reset the system date, if necessary**. Reset the system date and time relative to Greenwich Mean Time (GMT) if the system date and time that appeared in the startup messages in STEP 8 of Section 3.1, *Starting an IRIX Installation*, are not correct. Type the following command at the `Inst` prompt, where `mm` is the two-digit month, `dd` is the two-digit day, `hh` is the two-digit hour, `mm` is the two-digit minute, and `yy` is the two-digit year.

```
Admin date -u [mmddhhmmyy][RETURN]
```

WARNING: You must specify your default two-digit hour (`hh`) as an offset from GMT. Reference Appendix A, *Converting a Local Time Zone to an Offset From Greenwich Mean Time*, for instructions on converting your local time to an offset from GMT.

STEP 3: **Choose to display the `Administrative Commands Menu`.** Type the following command at the `Inst` prompt to display the `Administrative Commands Menu`:

```
admin [RETURN]
```

STEP 4: **Review the information in the `Administrative Commands Menu`.** The `Administrative Commands Menu` appears, which looks similar to the menu in Figure 3. This menu provides options that allow you to extend your control over the installation process and over conditions on the target system.

```
Administrative Commands Menu

 1. set [preferences]         List all preferences or set/clear a preference
 2. date [args]               Display or set the system date
 3. files [names]             List files in subsystems
 4. space                     List disk usage information
 5. recalculate               Recalculate space required for installation
 6. sh [cmd]                  Escape to a shell or run a command
 7. chroot [cmd]              Escape to a chrooted shell or run a command
 8. mount [fsname] [dir]      Show mounted filesystems or mount new ones
 9. umount [fsname]           Unmount a filesystem
10. mkfs [blockdevice]        Make a new filesystem
11. sethostname               Set name of current host, for networking
12. sethostipaddr             Set host ipaddr - Internet address
13. save filename             Save selection to file
14. load filename             Load selection from file
15. config [changed]          List all or modified config files
16. hardware                  List machine-specific hardware information
17. updatekeepfile            Add N(ew), unselected subsystems to keepfile
18. return                    Go to the Inst Main Menu

Admin>
```

Figure 3. Administrative Commands Menu

STEP 5: **Show mounted filesystems**. Type the following command at the `Admin` prompt to show mounted filesystems:

```
mount [RETURN]
```

Information similar to the following appears:

```
/dev/miniroot on / type xfs (rw)
/proc on /proc type proc (rw)
/dev/dsk/dks0d2s0 on root type xfs (rw, noquota)
/dev/dsk/dks0d4s7 on /CDROM type efs (ro, noquota)
```

The information that appears has the following components: the device name, followed by the word "`on`", followed by the location where the device is mounted, followed by the device type, followed by the device permissions.

NOTE: The actual information that appears will differ depending on the machine being used and the filesystems mounted on that particular machine.

STEP 6: **Choose to make a new filesystem on the device containing the `root` filesystem**. The device containing the `root` filesystem is the device shown in STEP 5 that is mounted on `root`. For example, in STEP 5, the device containing the `root` filesystem is `/dev/dsk/dks0d2s0`. Type the following command to make a new filesystem on the device containing the `root` filesystem:

```
mkfs [device name][RETURN]
```

A message similar to the following appears:

```
Unmounting device "[device name]" from directory "/root".
```

STEP 7: **Confirm that you want to make a new filesystem**. Type `yes` and press [RETURN] when the following message appears:

```
Make new file system on [device name] [yes/no/sh/help]:
```

STEP 8: **Re-confirm that you want to make a new filesystem**. Type `y` and press [RETURN] when the following message appears:

```
About to remake (mkfs) file system on: [file system]
This will destroy all data on disk partition: [filesystem].

         Are you sure [y/n] (n):
```

STEP 9: **Choose to create an XFS filesystem**. Type `xfs` and press [RETURN] when the following message appears:

```
Do you want an EFS or an XFS filesystem [efs/xfs]:
```

STEP 10: **Make the block size of the filesystem 4096 bytes**. Type `4096` and press [RETURN] when the following message appears:

```
Block size of filesystem 512 or 4096 bytes?
```

STEP 11: **Wait while the filesystem is created**. Information similar to the following appears:

```
Doing: mkfs -b size=4096 [device name]

...

   /dev/miniroot     on  /

   [device name]     on  /root

Re-initializing installation history database
Reading installation history .. 100% Done.
Checking dependencies .. 100% Done.
```

STEP 12: **Return to the `Inst Main Menu`**. The `Admin` prompt appears. Type the following command at the prompt.

`return` [RETURN]

STEP 13: **Specify the location of the software to be installed**. The `Inst Main Menu` reappears. Type the following command at the `Inst` prompt to specify the installation source:

`from` [RETURN]

STEP 14: **Choose to install the software from the CD-ROM**. The `Previous installation sites` menu appears, which looks similar to the following:

```
1  /CDROM/dist
2  none (no distribution, view installed products)
3  quit (no action)

Install software from:[/CDROM/dist]
```

Press [RETURN] to accept the default selection (`/CDROM/dist`).

STEP 15: **Choose to ignore the startup script**. The following menu appears:

```
Do you wish to run the optional installation startup script?
```

```
1. Run the installation script now
2. Ignore the startup script
3. Show the contents of the startup script
4. Help/Show the introductory "README" statement again.
Please enter a choice [1]:
```

Type `2` and press [RETURN] to ignore the startup script.

The following messages appear:

```
Reading distribution .. 100% Done.
Checking dependencies .. 100% Done.
Calculating sizes .. 100% Done.
```

STEP 16: **Choose to install all default software, the audit subsystem, and database communications software**. Type the following commands at the `Inst` prompt to choose to install the audit subsystem and database communications software. All default software will be installed automatically.

```
install eoe.sw.audit[RETURN]

install eoe.sw.svr4net[RETURN]
```

STEP 17: **Install the required IRIX software**. Type the following command at the `Inst` prompt to install required IRIX software:

```
go [RETURN]
```

Many messages appear on the screen. Near the end of the installation, the following message appears:

```
Checking dependencies .. 100% Done.
Installations and removals were successful.
You may continue with installations or quit now.
```

NOTE: Installing the software from the IRIX CD-ROM labeled *IRIX 6.2 (Part 1 of 2)* CD or the IRIX CD-ROM labeled *64 bit IRIX 6.2 with Indigo^2 IMPACT 10000 (Part 1 of 2)* takes about 10-15 minutes, depending on the speed of your processor.

STEP 18: **Load the second IRIX CD-ROM**. The following message appears:

```
Installations and removals were successful.
You may continue with installations or quit now.

To install from another CD, change the CD in the drive and
enter command “from”.

Inst>
```

Remove the CD-ROM from the CD-ROM drive. If you are using an SGI INDY processor, load the IRIX CD-ROM labeled *IRIX 6.2 (Part 2 of 2)* into the CD-ROM drive. If you are using an SGI INDIGO^2 processor, load the IRIX CD-ROM labeled *64 bit IRIX 6.2 with Indigo^2 IMPACT 10000 (Part 2 of 2)* into the CD-ROM drive.

STEP 19: **Specify the location of the software to be installed**. Type the following command at the `Inst` prompt:

```
from [RETURN]
```

STEP 20: **Choose to install the software from the CD-ROM**. The `Previous installation sites` menu appears, which looks similar to the following:

```
1  /CDROM/dist
2  none (no distribution, view installed products)
3  quit (no action)

Install software from: [/CDROM/dist]
```

Press [RETURN] to accept the default selection (`/CDROM/dist`).

The following messages appear:

```
Reading distribution .. 100% Done.
Checking dependencies .. 100% Done.
Calculating sizes .. 100% Done.
```

STEP 21: **Select all default IRIX software to be installed**. Type the following command at the `Inst` prompt to select all default IRIX software to be installed:

```
install default[RETURN]
```

STEP 22: **Install the default IRIX software**. Type the following command at the `Inst` prompt to install default IRIX software:

```
go [RETURN]
```

STEP 23: **Review any conflict messages**. A message similar to the following may appear. If it does, proceed to STEP 24. If it does not, proceed to STEP 26.

```
ERROR: Conflicts must be resolved.
Xlators-3d.doc.web_page cannot be installed because of missing
prerequisites:
   1a.  Do not install xlators-3d.doc.web_page
   1b.  Install netscape.sw.webjumper (0 - 2147483647) (not on
        current distribution)

Resolve conflicts by typing "conflicts choice choice..."
Or try help conflicts
```

STEP 24: **Resolve conflicts**. Type the following command to resolve any conflicts:

```
conflicts 1a [RETURN]
```

The following message appears:

```
No conflicts
```

STEP 25: **Install the default IRIX software**. Type the following command at the `Inst` prompt to install default IRIX software:

```
go [RETURN]
```

STEP 26: **Wait while the software installs**. Many messages appear on the screen. Near the end of the installation, the following message appears:

```
Checking dependencies .. 100% Done.
Installations and removals were successful.
You may continue with installations or quit now.
```

NOTE: Installing the software from the IRIX CD-ROM labeled *IRIX 6.2 (Part 2 of 2)* CD or the IRIX CD-ROM labeled *64 bit IRIX 6.2 with Indigo^2 IMPACT 10000 (Part 2 of 2)* takes about 10-15 minutes, depending on the speed of your processor.

STEP 27: **Load the third IRIX CD-ROM**. The following message appears:

```
Installations and removals were successful.
You may continue with installations or quit now.

To install from another CD, change the CD in the drive and
enter command “from”.

Inst>
```

Remove the CD-ROM from the CD-ROM drive and load the IRIX CD-ROM labeled *NFS/ONC3 FOR IRIX 6.2 VERSION 1.2* into the CD-ROM drive.

STEP 28: **Specify the location of the software to be installed**. Type the following command at the `Inst` prompt:

`from` [RETURN]

STEP 29: **Choose to install the software from the CD-ROM**. The `Previous installation sites` menu appears, which looks similar to the following:

```
1  /CDROM/dist
2  none (no distribution, view installed products)
3  quit (no action)

Install software from: [/CDROM/dist]
```

Press [RETURN] to accept the default selection (`/CDROM/dist`).

The following messages appear:

```
Reading distribution .. 100% Done.
Checking dependencies .. 100% Done.
Calculating sizes .. 100% Done.
```

STEP 30: **Select all default IRIX software to be installed**. Type the following command at the `Inst` prompt to select all default IRIX software to be installed:

`install default` [RETURN]

STEP 31: **Install the default IRIX software**. Type the following command at the `Inst` prompt to install default IRIX software:

```
go [RETURN]
```

Many messages appear on the screen. Near the end of the installation, the following message appears:

```
Checking dependencies .. 100% Done.
Installations and removals were successful.
You may continue with installations or quit now.
```

NOTE: Installing the software from the *NFS/ONC3 FOR IRIX 6.2 VERSION 1.2* CD takes about 5 minutes, depending on the speed of your processor.

STEP 32: **Remove the CD-ROM from the drive**. The following message appears:

```
Installations and removals were successful.
You may continue with installations or quit now.

To install from another CD, change the CD in the drive and
enter command “from”.

Inst>
```

Remove the IRIX CD-ROM labeled *NFS/ONC FOR IRIX 6.2 VERSION 1.2* from the CD-ROM drive.

STEP 33: **Exit from the installation utility**. Type the following command at the `Inst` prompt:

```
quit [RETURN]
```

The following messages appear:

```
Building dynamic ELF inventory file for rqs(1) processing ..
100% Done.
Invoking rqs(1) on necessary dynamic ELF objects .. 100% Done.
Automatically reconfiguring the operating system.
```

STEP 34: **Choose to restart the system**. Type `y` and press [RETURN] when the following prompt appears to choose to restart the system:

```
Ready to restart the system.Restart?{(y)es,(n)o,(sh)ell,
(h)elp}:
```

The following messages and dialog boxes appear:

```
Preparing to restart the system...

The system is being reestarted.

The system is coming up.

IRIS's Internet address is the default.
Using standalone network mode.
```

NOTE: `IRIS` is the default system host name.

STEP 35: **Proceed to the next section**. Proceed to the next section to install the DII COE Kernel.

4. DII COE Kernel Installation

The DII COE Kernel tape provides the desktop GUI and the Security and System Administration software. Follow the steps below to install the DII COE Kernel.

NOTE: The IRIX Operating System *must* be loaded before the DII COE Kernel can be loaded.

NOTE: All steps must be performed in the exact order presented to correctly install the DII COE Kernel. No steps may be skipped.

NOTE: This procedure takes approximately 30 minutes depending on the speed of your system.

WARNING: Do *not* log in to the system in STEP 3 by typing your user name in the CDE login window user name field. You *must* follow the exact procedure documented in STEP 3 in order to log in to the system or your installation will fail.

STEP 1: **Attach a tape drive to the system, if necessary**. Attach a tape drive to the system if one is not already attached.

STEP 2: **Load the kernel tape**. Load the DII COE Kernel tape into a tape drive.

STEP 3: **Log in as root**. Double-click on the `root` icon in the IRIX login window.

STEP 4: **Open a terminal window**. Click on the `Desktop` option in the upper-left corner of the screen and then click on the `Unix Shell` option. A winterm window appears.

STEP 5: **Extract the installation program from the tape**. Type the following command at the prompt to extract the installation program from the tape, where X is the controller number and Y is the tape drive number:

```
inst -a -I instdii -f /dev/rmt/tpsXdYnrms [RETURN]
```

NOTE: Reference Section 2.2, *IRIX Installation Preparation*, for instructions on determining your tape drive number and controller number.

Many messages appear, ending with the following message:

```
Installations and removals were successful.
```

STEP 6: **Start the installation program.** Type the following command to start the installation program:

```
/tmp/inst.dii[RETURN]
```

STEP 7: **Enter the tape device name**. Enter the appropriate tape device name from STEP 5 and press [RETURN] when the following prompt appears:

```
Enter the tape device (eg. /dev/rmt/tps0d3nrns)
```

STEP 8: **Enter a host name to identify the system on the network**. Enter the system's host name and press [RETURN] when the following prompt appears:

```
Enter the name of this Host [Return]:
```

NOTE: The host name must be unique within the domain in which it resides. Creating a duplicate host will cause network problems after you install IRIX 6.2. A host name can contain up to eight characters and can contain letters, numbers, underscores (_), or dashes (-). A host name must start with a letter. Uppercase letters are not recommended. See your system administrator before selecting a host name.

STEP 9: **Confirm that the host name is correct**. The following prompt appears:

```
You have chosen [host name] as the hostname for this system. Is
this correct?
```

Type `y` and press [RETURN] if the information is correct, or type `n` and press [RETURN] to return to STEP 8.

STEP 10: **Assign the system a unique IP address**. Enter the system's IP address and press [RETURN] when the following prompt appears:

```
Enter the IP address of this Host [Return]:
```

NOTE: An IP address must be unique and follow your site's address conventions or a system or network failure may result. IP addresses contain four sets of numbers between 0 and 255 that are separated by periods (e.g., 121.121.121.121). See your system administrator before selecting an IP address.

Even if the machine is not connected to a network, enter a valid IP address. This IP address may be changed via the `Edit Local Hosts` and the `Change Machine ID` windows. Reference the *DII COE System Administrator's Guide (HP-UX 10.20 and Solaris 2.5.1)* for more information about the `Edit Local Hosts` and the `Change Machine ID` windows.

STEP 11: **Confirm that the IP address is correct**. The following prompt appears:

```
You have chosen [IP address] as the IP address for this system.
Is this correct?
```

Type `y` and press [RETURN] if the information is correct, or type `n` and press [RETURN] to return to STEP 10.

STEP 12: **Enter and confirm a password for `root`.** The following messages appear:

```
Enter password for root:
New password:
```

Type your `root` password and press [RETURN]. Retype the password and press [RETURN] at the following prompt:

```
Re-enter new password:
```

NOTE: See your system administrator before choosing your `root` password.

STEP 13: **Wait while the kernel begins to install**. Many messages appear during the installation, including the following:

```
Installing OS Patches ...
```

STEP 14: **Choose the appropriate time zone location**. The text shown in Figure 4 appears. Type the number for the appropriate time zone location and press [RETURN].

```
The following procedure enables you to set the time zone.

Select your location from the following list:

   1) North America or Hawaii
   2) Central America
   3) South America
   4) Europe
   5) Africa
   6) Asia
   7) Australia, New Zealand

Enter the number for your location (1-7) then press [Return]
```

Figure 4. Time Zone Location Window

STEP 15: **Choose the appropriate time zone**. The text shown in Figure 5 appears. Type the number for the appropriate time zone and press [RETURN].

```
Select your time zone from the following list:

1)  Newfoundland Standard/Daylight      8)  Pacific Standard/Daylight
2)  Atlantic Standard/Daylight          9)  Yukon Standard/Daylight
3)  Eastern Standard/Daylight           10) Aleutian Standard/Daylight
4)  Eastern Standard Only               11) Hawaii Standard
    (US:  Most of Indiana)
5)  Central Standard/Daylight           12) Unlisted time zone
6)  Mountain Standard/Daylight          13) Previous menu
7)  Mountain Standard Only (Arizona)

Enter the number for your time zone (1 - 13), then press [Return]
```

Figure 5. Time Zone Window

STEP 16: **Wait while the kernel continues to install**. Many messages appear during the installation, including the following:

```
Installing TED CDE ...
...
Installing CDE Packages ...
...
Installing DII CDE Customizations
...
Beginning segment installation ...
                COE
                UNIX
                Motif
                XWindows
                CDE
                CSECON
                CSELCK
                CSEXDM
                CSEPAS
                Printer
                UserMgmt
                SecAdm
                SysAdm
```

STEP 17: **Determine if your network has a default router**. The following prompt appears:

```
                    -- Default Router --

    In order to specify a default network router, you need to
    provide the router network (IP) address.

    Does this network have a default router?
```

Type `y` or `n` and press [RETURN]. If you type `y`, proceed to STEP 18; if you type `n`, proceed to STEP 20.

STEP 18: **Enter the IP address of your default router**. The following prompt appears:

```
    Enter the IP address of your Default Router, then press
    [Return].
```

Enter the IP address of your default router and press [RETURN].

STEP 19: **Confirm that the IP address of the default router is correct**. The following prompt appears:

```
    You have chosen [IP address] as the default router for this
    system.
    Is this correct?
```

Type `y` and press [RETURN] if the information is correct, or type `n` and press [RETURN] to return to the prompt described in STEP 18.

STEP 20: **Enter and confirm a password for `sysadmin`**. The following messages appear:

```
    Enter password for sysadmin
    New password:
```

Type your `sysadmin` password and press [RETURN]. Retype the password and press [RETURN] at the following prompt:

```
    Re-enter new password:
```

NOTE: See your system administrator before choosing your `sysadmin` password.

STEP 21: **Enter and confirm a password for `secman`.** The following messages appear:

```
Enter password for secman
New password:
```

Type your `secman` password and press [RETURN]. Retype the password and press [RETURN] at the following prompt:

```
Re-enter new password:
```

NOTE: See your security administrator before choosing your `secman` password.

STEP 22: **Reboot the system**. Press the [RETURN] key when the following message appears:

```
System will now reboot, Press any key to continue
```

The following dialog boxes appear:

```
The system is shutting down.
Please wait.

Starting up the system.

The system is coming up.
```

The system reboots and the installation is complete.

STEP 23: **Remove the tape from the tape drive**. Remove the DII COE Kernel tape from the tape drive.

STEP 24: **Proceed to the next section**. You can now log in to the system, as described in Section 5, *DII COE Login Accounts*.

5. DII COE Login Accounts

After you install the IRIX 6.2 Operating System and the DII COE Kernel, predefined login accounts are available to allow you to perform functions that are described in detail in the *DII COE System Administrator's Guide (HP-UX 10.20 and Solaris 2.5.1).*

To use the DII COE, you must enter a login name and password. Two DISA login screens appear any time a machine loaded with the IRIX 6.2 Operating System and the DII COE Kernel is rebooted. The first screen asks for your user name, as shown in Figure 6; the second screen asks for your user password, as shown in Figure 7.

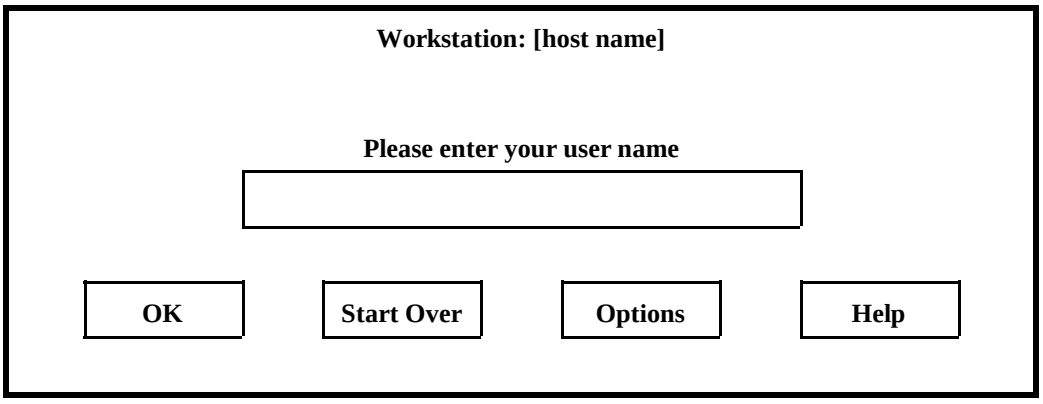

Figure 6. DISA Login Screen (User Name)

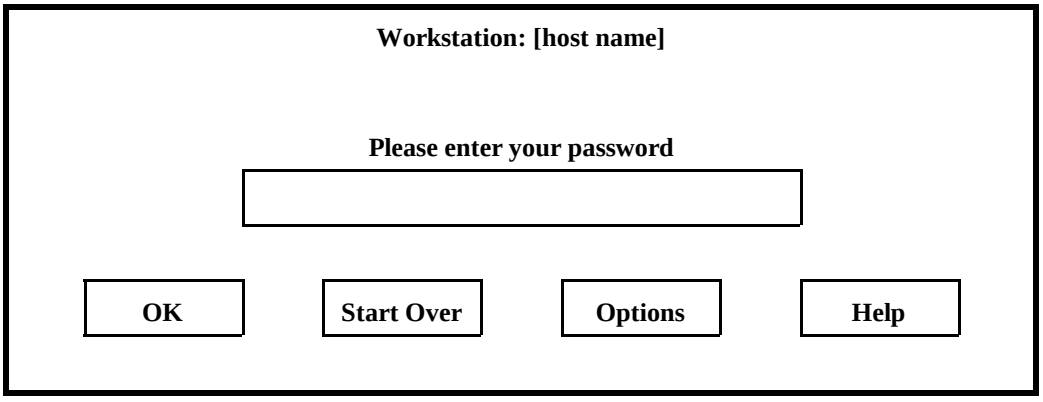

Figure 7. DISA Login Screen (Password)

To begin using the DII COE, enter any of the valid login commands described in the following sections.

5.1 The root Login

The `root` login is the standard UNIX `root` login. Follow the steps below to log in as `root` from the DISA login screen:

STEP 1: **Log in as `root`**. Type `root` in the "user name" field shown in Figure 6 and click on the `OK` button.

STEP 2: **Enter the `root` password**. Type the `root` account password in the "password" field shown in Figure 7 and click on the `OK` button.

STEP 3: **Consent to monitoring**. The DISA Security Screen appears. Press [RETURN] to consent to monitoring. The CDE Front Panel appears at the bottom of the screen.

5.2 The System Administration Login

The sysadmin login displays a menu bar of system administration and maintenance utilities. These utilities allow the system administrator to perform various system administration functions, such as selecting and configuring printers, managing print jobs, and closing windows; rebooting the system, mounting file systems, formatting hard drives, and initializing floppy diskettes; loading or installing segments; changing the machine ID, editing host information, setting the system time, configuring a workstation to use DNS host name and IP address resolution, setting routing configuration, and configuring NIS; and removing global data.

Reference the *DII COE System Administrator's Guide (HP-UX 10.20 and Solaris 2.5.1)* for more information about the System Administration application software.

Follow the steps below to log in to the System Administration utility from the DISA login screen:

STEP 1: **Log in as system administrator**. Type `sysadmin` in the "user name" field shown in Figure 6 and click on the `OK` button.

STEP 2: **Enter the `sysadmin` password**. Type the `sysadmin` password in the "password" field shown in Figure 7 and click on the `OK` button.

STEP 3: **Consent to monitoring**. The DISA Security Screen appears. Press [RETURN] to consent to monitoring. The System Administration software appears.

5.3 The Security Administration Login

Follow the steps below to log in to the Security Administration utility from the DISA login screen:

STEP 1: **Log in as security administrator**. Type `secman` in the "user name" field shown in Figure 6 and click on the OK button.

STEP 2: **Enter the `secman` password**. Type the `secman` password in the "password" field shown in Figure 7 and click on the OK button.

STEP 3: **Consent to monitoring**. The DISA Security Screen appears. Press [RETURN] to consent to monitoring. The Security Administration software is now enabled.

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Appendix A - Converting a Local Time Zone to an Offset From Greenwich Mean Time

There are 25 integer World Time Zones from -12 through 0 (GMT) to +12. Each time zone is 15 degrees of Longitude as measured East and West from the Prime Meridian of the World at Greenwich, England.

Each time zone is measured relative to Greenwich, England. Civilian designations for time zones are typically three letter abbreviations [e.g., Eastern Standard time (EST)]. In addition, time zones have military designations that use each letter of the alphabet (except 'i') and are known by their phonetic equivalent. For example, GMT (civilian) or z = Zulu (military and aviation). Figure 8 shows each time zone and its offset from GMT.

To convert your local time to an offset from GMT, (1) determine your time zone, (2) locate your time zone in the `Civilian Time Zones` column in Figure 8, and (3) determine the GMT offset for your time zone in the `GMT` column. For example, if your time zone is Eastern Standard Time (EST) and the local time is 5:00 a.m., the GMT offset time is 10:00 a.m. (+5:00).

GMT	Military	Phonetic	Civilian Time Zones
+0:00	z	Zulu	GMT - Greenwich Mean UT or UTC - Universal (Co-ordinated) WET - Western European MEST - Middle European Summer MESZ - Middle European Summer SST - Swedish Summer FST - French Summer
+1:00	a	Alpha	WAT - West Africa BST - British Summer
+2:00	b	Bravo	AT - Azores
+3:00	c	Charlie	
+4:00	d	Delta	AST - Atlantic Standard
+5:00	e	Echo	EST - Eastern Standard ADT - Atlantic Daylight
+6:00	f	Foxtrot	CST - Central Standard EDT - Eastern Daylight
+7:00	g	Golf	MST - Mountain Standard CDT - Central Daylight
+8:00	h	Hotel	PST - Pacific Standard MDT - Mountain Daylight

Figure 8. Time Zones (Part 1 of 2)

GMT	Military	Phonetic	Civilian Time Zones
+9:00	j	Juliet	YST - Yukon Standard PDT - Pacific Daylight
+10:00	k	Kilo	AHST - Alaska-Hawaii Standard CAT - Central Alaska HST - Hawaii Standard YDT - Yukon Daylight
+11:00	l	Lima	NT - Nome HDT - Hawaii Daylight
+12:00	m	Mike	IDLW - International Date Line West
-1:00	n	November	CET - Central European FWT - French Winter MET - Middle European MEWT - Middle European Winter SWT - Swedish Winter
-2:00	o	Oscar	EET - Eastern European, USSR Zone 1
-3:00	p	Papa	BT - Baghdad, USSR Zone 2
-4:00	q	Quebec	ZP4 - USSR Zone 3
-5:00	r	Romeo	ZP5 - USSR Zone 4
-6:00	s	Sierra	ZP6 - USSR Zone 5 WADT - West Australian Daylight
-7:00	t	Tango	WAST - West Australian Standard
-8:00	u	Uniform	CCT - China Coast, USSR Zone 7
-9:00	v	Victor	JST - Japan Standard, USSR Zone 8 EADT - Eastern Australian Daylight
-10:00	w	Whiskey	EAST - East Australian Standard GST - Guam Standard, USSR Zone 9
-11:00	x	X-ray	NZDT - New Zealand Daylight
-12:00	y	Yankee	IDLE - International Date Line East NZST - New Zealand Standard NZT - New Zealand

Figure 8. Time Zones (Part 2 of 2)